AIRS/AMSU/HSB Data Disclaimer

Please read this before reporting problems with data or data availability. The following factors may have affected the data products you have ordered.

Atmospheric Infrared Sounder (AIRS)

The AIRS instrument entered 'operate' mode on 24 July 2002.

AIRS data are unavailable for the period 29 July 2002-14:14:13 to 30 August 2002-09:25:10 UTC because of instrument defrost activities and unexpected cooler shutdowns. (The shutdowns were apparently caused by ionizing radiation affecting the cooler electronics in the South Atlantic Anomaly.)

AIRS data are unavailable for the period 19 October 2002-17:03:5 to 22 October 2002-01:37:25 UTC due to a false overstroke trip by the AIRS cooler (likely caused by a radiation 'hit').

AIRS IR Liens

- The static channel properties files are known to be incomplete in their characterizations. In particular, some channels may pop which are not listed as popping channels.
- The excluded channel list is not fully optimized. Consequently **CalScanSummary** and **CalGranSummary** may include information from channels known to misbehave.
- Possible geolocation offset by ~4km in the cross-track direction

AIRS VIS/NIR Liens

- Low-numbered detectors in Channel 4 have anomalously low radiances for the first ~tens of samples in each scanline. Until investigation is complete, ignore Channel 4 radiances in the first 3 IR footprints of each scanline.
- There appear to be low-level signals in the VIS/NIR calibration and blackbody views, where none are expected. Neither is deemed serious at this time. Specifically:
    - The last sample of the blackbody in zero-based Channel 2. This occurs day and night, and is at the fraction of a DN level.
    - The last one or two samples of the photocalibrator assembly (when the lamps are off) in zero-based Channel 1. This appears to occur during parts of every daytime granule, and has not been seen at night. It is at the 1 to 10 DN level.
- In each scanline, at the left edge of the swath (first 3 IR footprints), the first few detectors of Channel 4 (the ones furthest South in ascending granules) have anomalously low values, less than 10% of their expected value. Since Channel 4 is primarily intended for use in a research product

(energy balance studies) and the swath edges are of limited value, this problem is not considered critical.

Advanced Microwave Sounding Unit (AMSU)

AMSU Liens

- AMSU channel 7 exhibits abnormal noise levels
  - Noise level is about 5x NEdT on the average, but varies substantially
  - The added noise is not random; probable cause is spacecraft transmitter interference
  - The underlying random noise (NEdT) is within specs
  - Channel 7 should not be used
- AMSU channel 6 exhibits some of the same noise characteristics as channel 7, however
  - Added noise level is a fraction of NEdT; overall level still meets specs
  - Use channel 6 with confidence
- AMSU channel 9 radiometer counts exhibit sudden, large change (~0.1%) recovering suddenly or gradually after 1-3 minutes; typically appears once or a few times per day, possibly clustered; no other channels affected
  - The phenomenon is being characterized; cause as yet unknown
  - Negligible effect in most cases; use channel 9 with confidence
- AMSU-A1 exhibits substantial scan asymmetry which produces scan-dependent negative bias in scene brightness temperatures
  - A left-right asymmetry is present; the left swath edge exhibits a warm bias
  - Probable cause is asymmetric space/spacecraft radiative environment
  - No scene sidelobe corrections have yet been applied
  - Efforts are under way to model the effect so that it may be removed as part of regular L1B processing in the future

Humidity Sounder for Brazil (HSB)

HSB has not been operating since 5 February 2003-21:50 UTC.

HSB Liens

- HSB exhibits substantial scan asymmetry which produces scan-dependent negative bias in scene brightness temperatures
    - A left-right asymmetry is present; the left swath edge exhibits a warm bias
    - Probable cause is asymmetric space/spacecraft radiative environment
    - No scene sidelobe corrections have yet been applied

Aqua Spacecraft Safing Events

The Aqua spacecraft underwent two safing events. The AIRS / AMSU / HSB instrument suite did not collect data during the following periods (all times are approximate to several minutes): 27 June 2002-15:40 to 28 June 2002-20:36 UTC, and, 12 September 2002-13:31 to 23:24 UTC.

Occasional Data Outages

The AIRS / AMSU / HSB instrument suite has been shut down periodically for orbital correction maneuvers (drag makeup burns) and MODIS lunar calibration maneuvers. No data are available between Park Time and Restart Time in the following table.

Year/Day of Year	Date	Park Times	Restart Times (UTC)	Reason
2002/192	Jul. 11	11:34:00	17:45:00	Drag Makeup #1
2002/200	Jul. 19	19:55:22	22:30:30	MODIS Calibration
2002/234	Aug. 22	13:44:00	17:36:00	Drag Makeup #2
2002/259	Sep. 16	13:02:10	16:46:00	Drag Makeup #3
2002/289	Oct. 16	14:05:00	14:53:00	MODIS Calibration
2002/290	Oct. 17	14:35:00	17:20:00	Drag Makeup #4
2002/316	Nov. 12	14:20:30	17:26:40	Drag Makeup #5
2002/319	Nov. 15	4:29:00	4:58:00	MODIS Calibration
2002/346	Dec. 12	14:30:30	17:25:00	Drag Makeup #6
2002/348	Dec. 14	21:59:00	22:20:05	MODIS Calibration
2003/003	Jan. 03	15:00:05	17:37:00	Drag Makeup #7
2003/013	Jan. 13	18:37:00	19:03:00	MODIS Calibration
2003/030	Jan. 30	19:23:10	30:23:00	Drag makeup #8
2003/043	Feb. 12	13:48:00	14:19:00	MODIS Calibration